



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,118	04/19/2004	Michael P.C. Watts	P102-44-03	1452
25108 7590 07/14/2005 MOLECULAR IMPRINTS, INC. KENNETH C. BROOKS PO BOX 81536 AUSTIN, TX 78708-1536			EXAMINER STAICOVICI, STEFAN	
			ART UNIT 1732	PAPER NUMBER
DATE MAILED: 07/14/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/827,118

Applicant(s)

WATTS ET AL.

Examiner

Stefan Staicovici

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/6/04:6/30/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: the instant disclosure includes several references to commonly owned applications. An update on the status of said applications is required.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-11, 14-16, 18-27 and 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilson *et al.* (US Patent No. 6,334,960 B1).

Regarding claims 1-2, 4-8 and 11, Wilson *et al.* ('960) teach the claimed process for forming a pattern on a plate including, providing a mold (40) made from a quartz (material that is transparent to radiation) and having a relief pattern, providing a substrate (10) having a polycarbonate transfer layer (20) (coupling agent) thereon, said transfer layer having an excellent adhesion to a polymerizable material such as, epoxy, polycarbonate or silicone based, that is positioned between said mold (40) and said transfer layer (20). Further, Wilson *et al.* ('960) teach placing said polymerizable material between said mold and said substrate, transferring said

pattern from said mold onto said polymerizable material by closing the gap between said mold and said substrate such that said polymerizable material comes into contact with said mold and said substrate, polymerizing said polymerizable material by applying UV radiation and bonding said polymerized material to said transfer layer (see col. 2, line 53 through col. 4, line 63 and Figures 1A-1D). Further, Wilson *et al.* ('960) teach that said pattern has an aspect ratio of 0.1-10, wherein the width is about 10nm-5000µm. Hence, it is submitted that the height of the pattern is about 1 nm-500 µm.

In regard to claim 14, Wilson *et al.* ('960) teach an additional thermal treatment (see col. 4, lines 45-65).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12, 28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson *et al.* (US Patent No. 6,334,960 B1).

Wilson *et al.* ('960) teach the basic claimed process as described above.

Regarding claims 12, 28 and 31, although Wilson *et al.* ('960) teach that the substrate is made from plastics and silicone, Wilson *et al.* ('960) do not teach that the substrate is made from a radiation transparent material, such as, quartz. However, Wilson *et al.* ('960) teach that the mold is made from quartz. Further, Wilson *et al.* ('960) teach that the material used for making

Art Unit: 1732

the mold and the substrate may be optimized according to the needs of one ordinarily skilled in the art. Hence, it is submitted that the material is a result-effective variable. Therefore, it would have been obvious for one of ordinary skill in the art to have used routine optimization to determine the material for making the substrate in the process of Wilson *et al.* ('960) because Wilson *et al.* ('960) teach that the material used for making the mold and the substrate may be optimized according to the needs of one ordinarily skilled in the art, hence teaching that the mold and substrate material is a result-effective variable and also because quartz is radiation transparent.

6. Claims 3, 13, 17, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson *et al.* (US Patent No. 6,334,960 B1) in view of Bailey *et al.* (US 2002/0115002).

Wilson *et al.* ('960) teach the basic claimed process as described above.

Regarding claims 3, 13, 17, 22, Wilson *et al.* ('960) does not teach depositing the polymerizable material in the form of droplets. Bailey *et al.* (US 2002/0115002) teaches a fluid dispensing method of a polymerizable material in an imprint lithographic process including, forming a pattern of drops between a mold and a support (see paragraph [0126]). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a pattern of drops of a polymerizable material as taught by Bailey *et al.* (US 2002/0115002) in the process of Wilson *et al.* ('960) because, Bailey *et al.* (US 2002/0115002) teaches that such a pattern of droplets provides for a faster dispensing step, hence reducing production time and as such, reducing costs.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

A handwritten signature in black ink, appearing to read 'Stefan Staicovici', with a stylized, cursive script.

Primary Examiner

AU 1732

July 11, 2005